

No. 725,349.

PATENTED APR. 14, 1903.

F. J. MARSHALL.
PULP BEATING ENGINE.

APPLICATION FILED JULY 16, 1902.

NO MODEL.

Fig. 1.

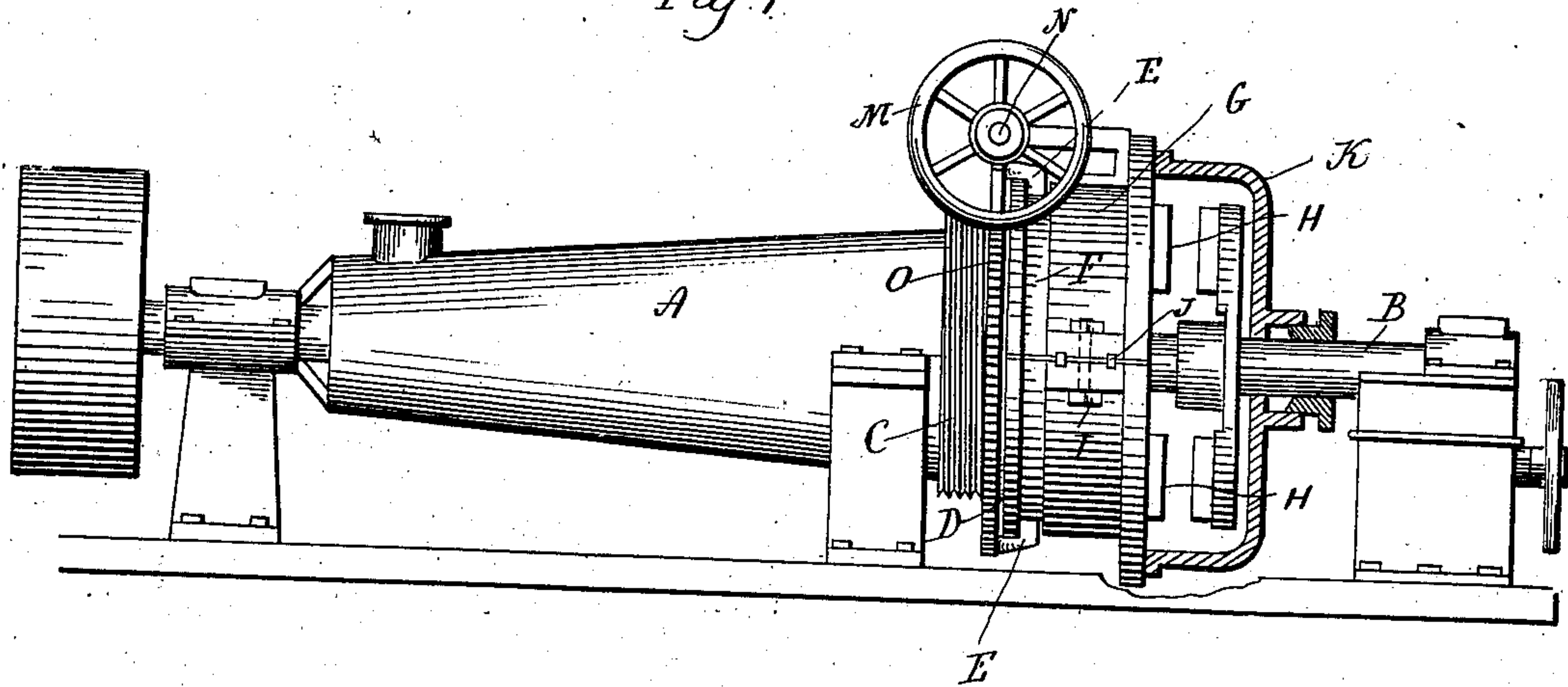


Fig. 2.

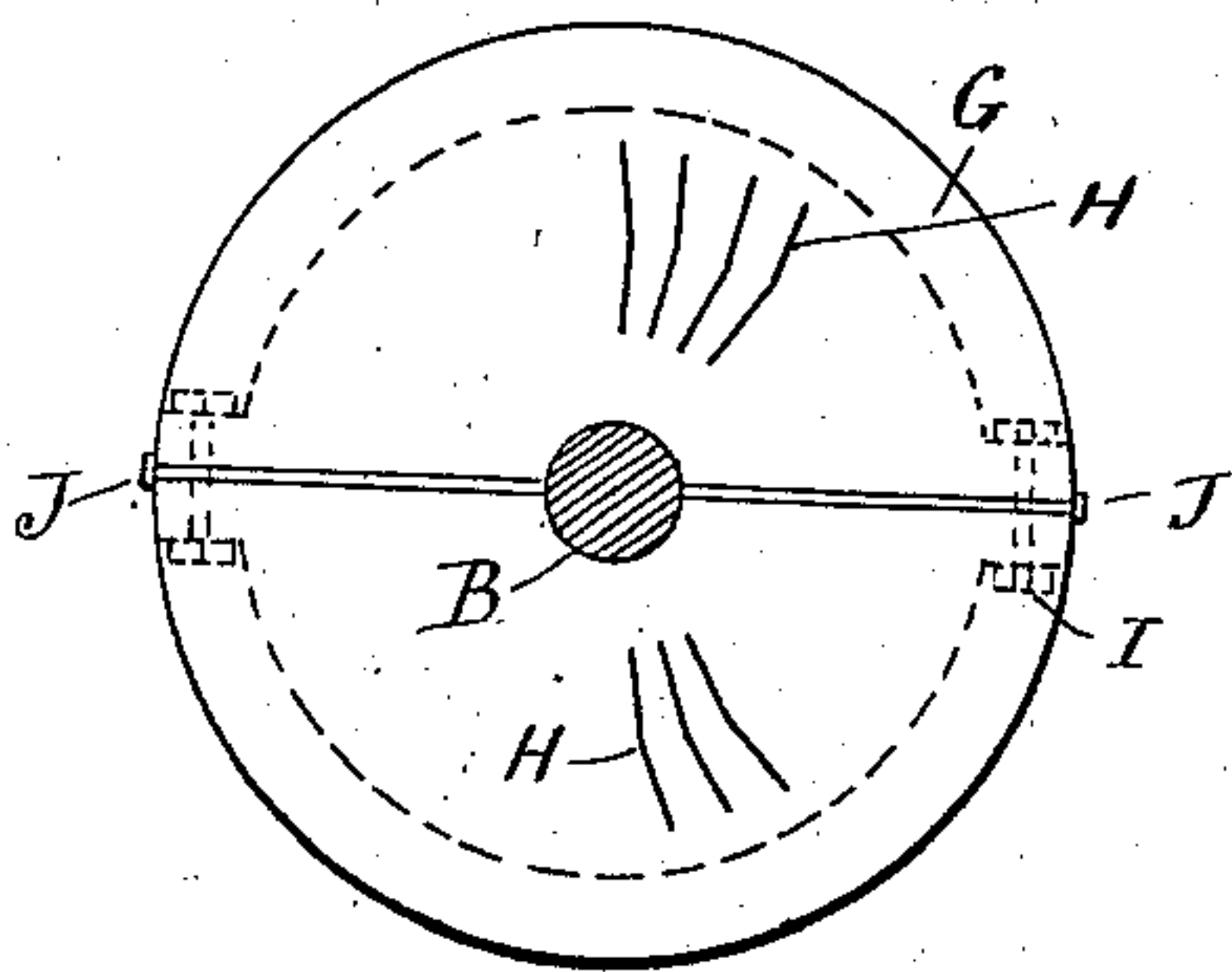
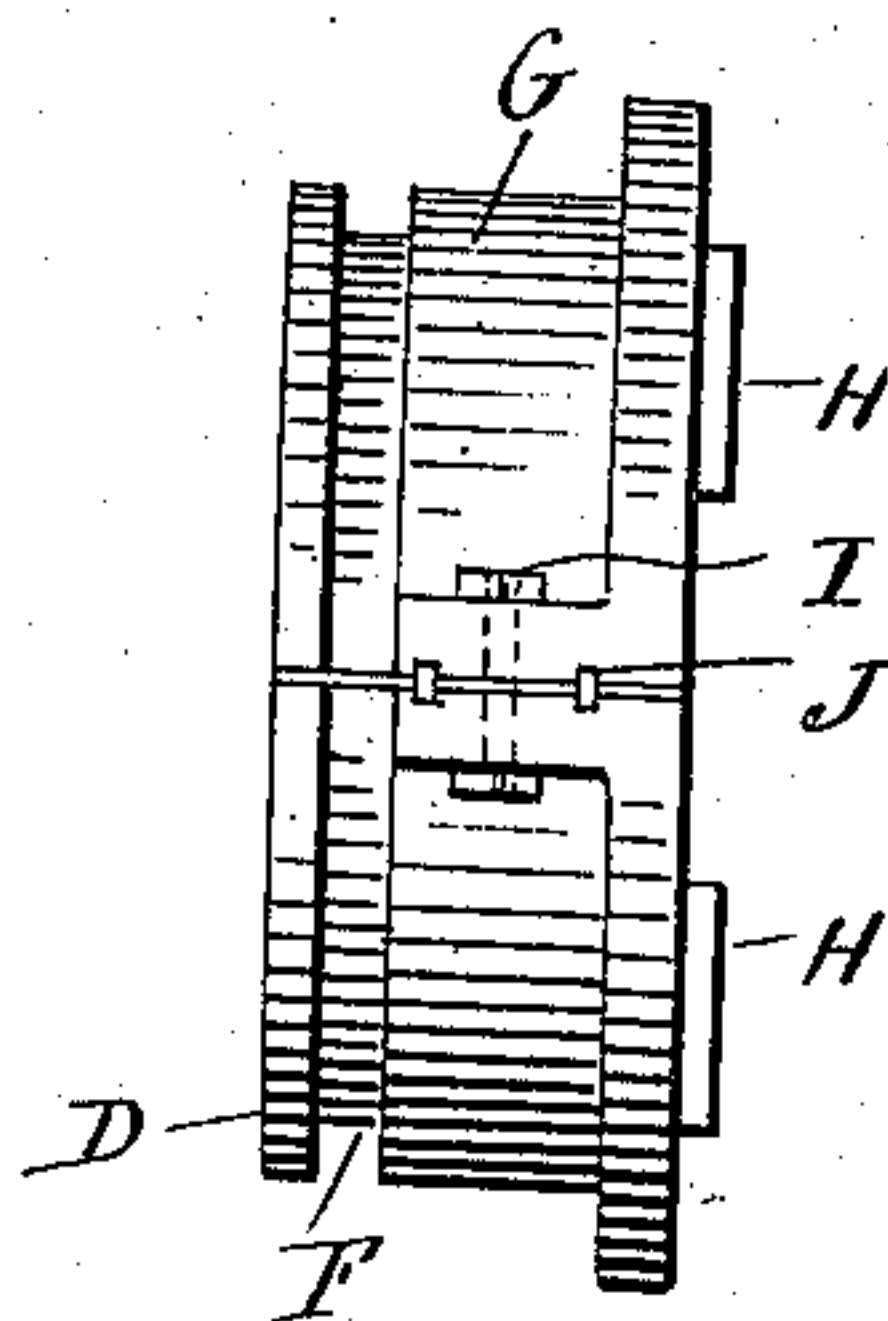


Fig. 3.



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UNITED STATES PATENT OFFICE.

FRANK J. MARSHALL, OF TURNERS FALLS, MASSACHUSETTS.

PULP-BEATING ENGINE.

SPECIFICATION forming part of Letters Patent No. 725,349, dated April 14, 1903.

Application filed July 16, 1902. Serial No. 115,806. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. MARSHALL, of Turners Falls, in the county of Franklin and State of Massachusetts, have invented a new and useful Improvement in Pulp-Beating Engines; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view, partially in section, of an engine constructed in accordance with my invention; Fig. 2, an end view of the plate detached; Fig. 3, a side view of the same.

This invention relates to an improvement in pulp-beating engines which comprise a casing of frustum-of-cone shape, with a revolving shaft therein carrying a correspondingly-shaped cone having longitudinal ribs or beaters which coact with ribs or cutters upon the interior of the case, a normally stationary sliding plate at the delivery end of the case, and a revolving disk carried by the shaft, the adjacent face of the sliding plate and the revolving disk being provided with cutters and a cap secured to the sliding plate, the sliding plate and the cap being longitudinally adjustable on the casing and so that it may be moved with relation to the revolving disk, whereby the cutters may be adjusted with relation to each other; and this invention is an improvement on Patent No. 411,251, granted September 17, 1889, to E. R. Marshall, and also embodies features shown in Patent No. 342,802, granted June 1, 1886, to myself. In engines of this character it is desirable that the beating or brushing surfaces of the revolving disk and sliding plate should be as great as possible without increasing the diameter of the case, and in the use of these engines it is frequently necessary to remove the internal cone to chip out the wood filling between the knives and to replace the knives when they are worn out; but with a solid sliding plate this would be impossible without entirely dismantling the engine.

The object of this invention is first to increase the beating or brushing surface of the revolving disk and sliding plate without increasing the external diameter of the same

and to permit access to the internal cone; and the invention consists in carrying the face of the revolving disk and sliding plate as near to the central shaft as possible and in forming the sliding plate in two sections which may be readily clamped together and as readily detached, so that the plate may be removed and access had to the cone without disarranging the adjacent parts of the engine; and the invention further consists in forming that plate in two parts, as will be more fully hereinafter described, and particularly recited in the claims.

As in the previous patents above referred to, the engine consists of a case A of conical shape, through which a driving-shaft B extends, and which carries the usual internal cone. Like the engine shown in Patent No. 342,802, the case is provided near its outer end with external threads C, upon which an internally-threaded ring D is adapted to turn, this ring being provided with flanges E, entering an annular groove F, formed in a sliding plate G, and this plate, as shown in the drawings, is formed in two semicircular sections which carry a corresponding number of cutters H, which extend toward the shaft and overhang the outer end of the internal cone, and the two members are adapted to be secured together by bolts I or other suitable means. Between the sections wedges J will be arranged to permit the suitable adjustment. To this plate the usual cap K is attached, which cap incloses the sliding plate G. The means for adjusting the plate G are like those shown in Patent No. 342,802 above mentioned and include a worm-shaft N, operated by a wheel M and meshing with teeth O on the exterior of the ring D, and so that by turning the worm-shaft the ring will be rotated and moved upon the casing and through its engagement with the plate G move that plate in a corresponding direction. By thus dividing the plate the members may be separated and removed, so that access may be had to the interior of the casing without disarranging the other parts of the engine.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a pulp-beating engine, the combina-

tion with the case thereof, of a plate longitudinally adjustable with relation to the case, said plate formed in sections, and means for clamping the sections together, substantially
5 as described.

2. In a pulp-beating engine, the combination with the case thereof, of a plate longitudinally adjustable with relation thereto, said plate formed in two parts, and means
o for connecting the parts together, said plate

carrying inwardly-projecting cutters, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

F. J. MARSHALL.

Witnesses:

M. B. ALLEN,

CHARLES F. SEILER.